

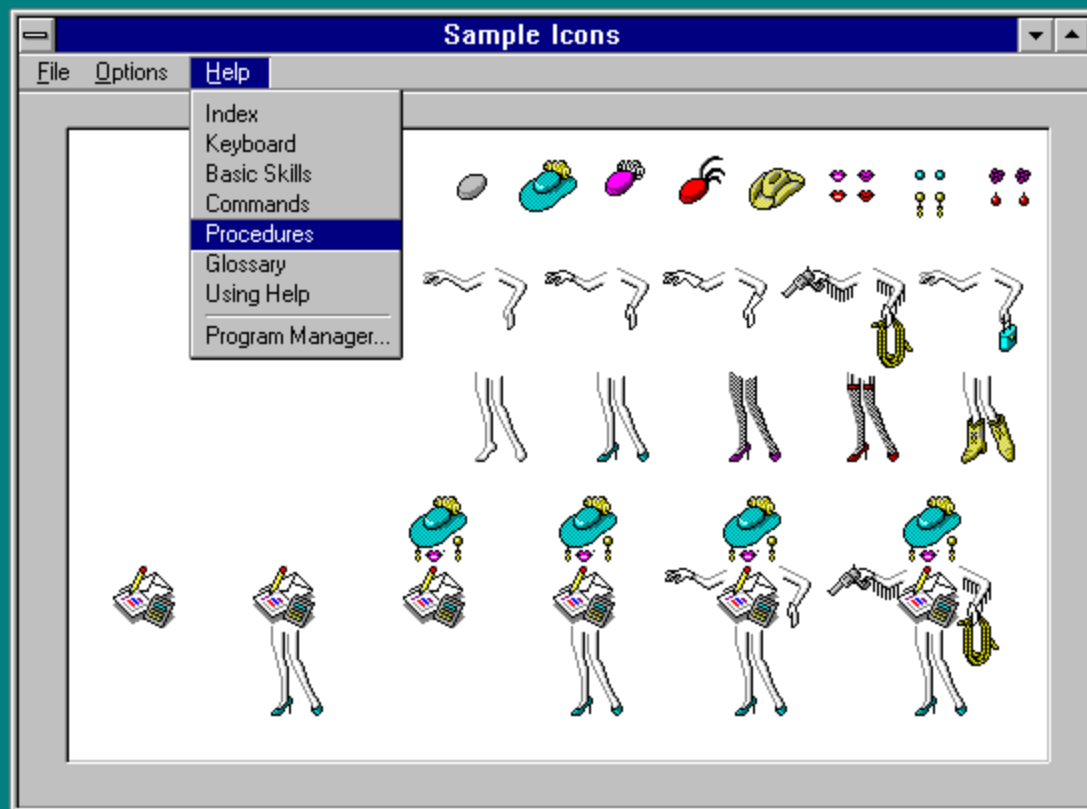


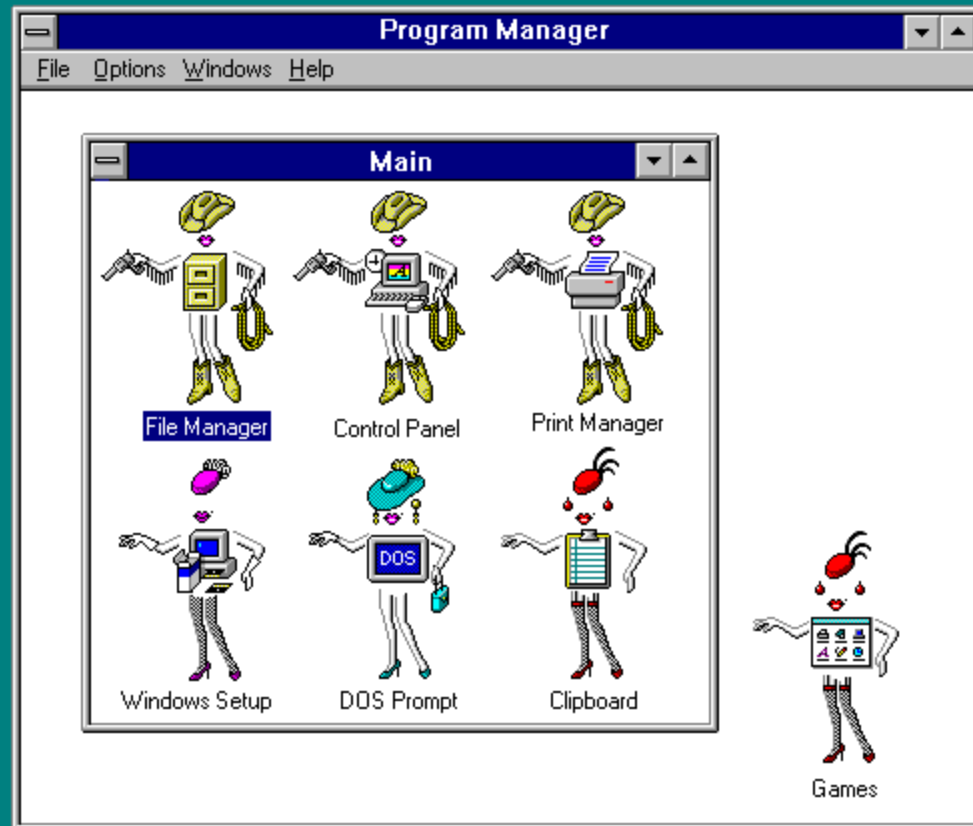
The Art of Visual Interface Design

**Virginia Howlett
Director of Visual Interface Design
Microsoft Corporation**

Summary of the next hour

- u User interface design process**
- u What graphic and product designers contribute**
- u Recommendations for color, icons, and visual presentation**





Cool" graphics are ...

“Like lipstick on a bulldog!”

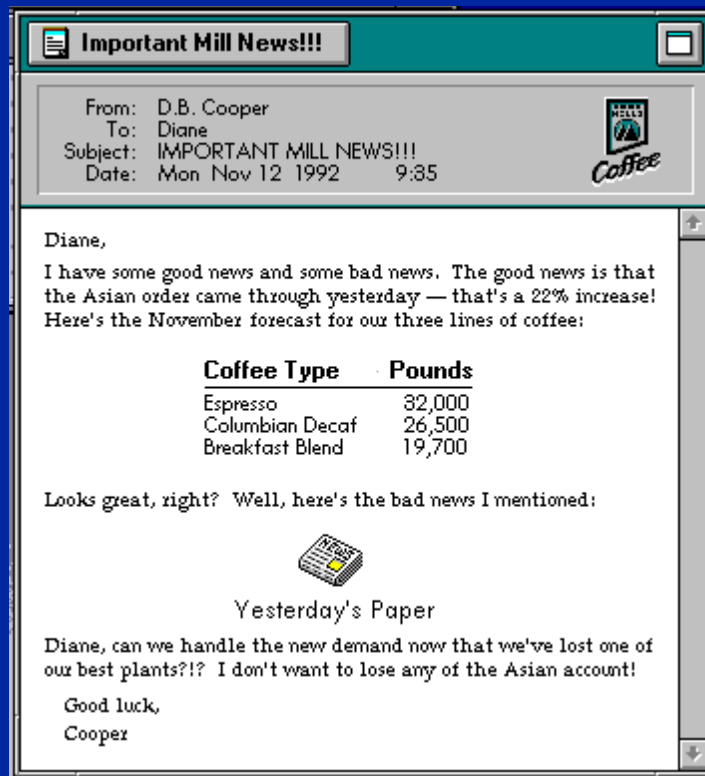
(Norm Cox)

**“Good design can improve your
product’s usability and
marketability.”**

(Virginia Howlett)

Take Advantage Of

- u Principles of graphic information design and visual perception**
- u Human factors and user needs**
- u Communication and interaction styles and paradigms**
- u Standards for consistency**



- u Product design must be integrated into the development process early**

Product development process

- u The idea or technology**
- u Contextual inquiry - go out and talk to users**
- u Prototype - on paper, bitmaps, later: VB code**
- u Usability test & iterate the design**
- u Write code**

Product development team

From the beginning: !!

- u Product manager/ui designer**
- u Product designer & graphic artists**
- u Usability specialists**
- u Software development engineers**
- u Prototyper**

Take Advantage of: Graphic Design

Metaphor

Shape

Color

Font

Placement

Emphasis

**= Visual
Communication**

Take Advantage of: Psychology and Perception

- u Fonts**
- u Color effects**
- u Color confusion**
- u Reading order**
- u Cultural bias**
- u How people see**
- u How people organize information**





Yesterday's Paper



"All the News
That's Fit"

The Twin Hill Times

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SUNDAY, NOVEMBER 11, 1992

On-line Edition

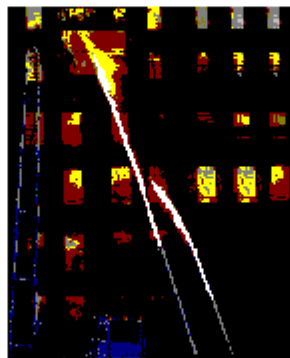
Coffee Plant Fire Costs Millions

By Virginia Dreger Malamud

Seattle WA — A mysterious three alarm fire destroyed the Twin Hills master yesterday after it raged through all twelve floors of the Grauman Building. "This is the worst disaster to hit Twin Hills since the Falcon Lodge fire in 1959" said Tony Snodgrass, President of the Twin Hills Coffee Corporation. "Fortunately, no injuries were sustained during this disaster."

Damages to the plant and inventory of raw coffee beans could run as high as \$10 million dollars, according to fire department estimates.

The cause of the fire is under investigation, though deputy Tandy Howlett of the Twin Hills Fire Department says arson is suspected. It appears that something in the basement floor ignited the blaze.



Employees of the Twin Hills master say that smoke began appearing in the stairwells around 10am yesterday

[Continue...](#)

Workers Being Moved to Other Plants to Meet Current Orders

By Alison Ho and John Trower

Due to the need to fulfill current orders, the Twin Hills Coffee Corporation is temporarily re-locating employees from the Twin Hills area to other plants in the Northwest for the next several months.

The company anticipates sending most of the Twin Hills workers to the Walla Walla plant, with smaller numbers going to the Okanogan Hills and Columbia River plants.

The Twin Hills facility was responsible for 25% of the production of Twin Hills Coffee.

Much of the roasted coffee was sold to overseas markets, according to Lisa Laney, Twin Hills Vice President of

[Continue...](#)









Keep Clean

VTRスタジオ



デザイン室

写真スタジオ



企1部倉庫

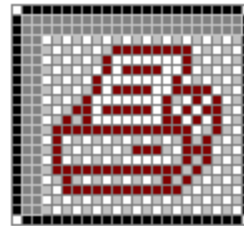
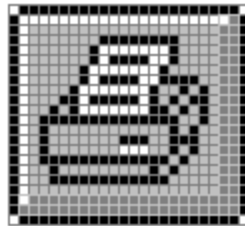




Affordances

- u A well designed interface affords correct use
- u We process visual information much faster than verbal

Affordances



Press Alt + B for bold text.

At

Ln

Col 1

Some recommendations

Standards

Color

Icons

Graphics

Visual Organization

Standards

**“The Windows Interface -
An Application Design
Guide”**

- MS Press

**“The Visual Design Guide”
- online,
included in VB**

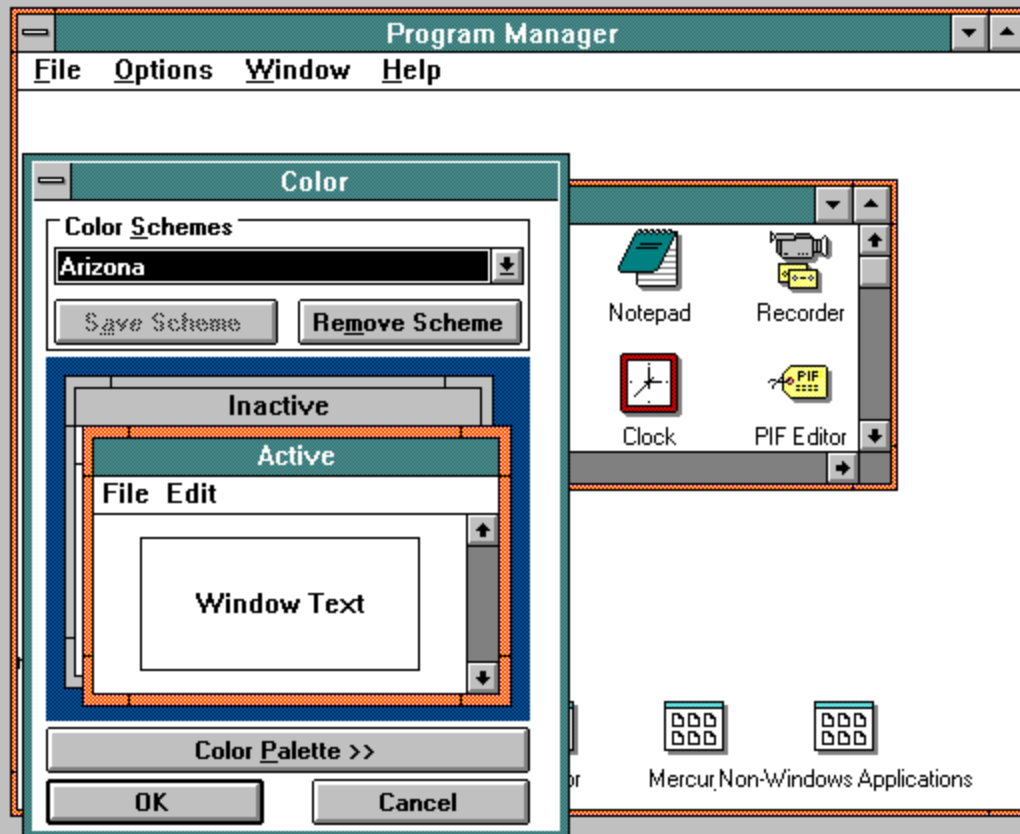
Color

- u Has emotional properties**
- u Always attracts the eye**
- u Communicates relatedness**
- u Color coding can be slow**
- u Be aware of color blindness and color confusion**



Color Is Emotional

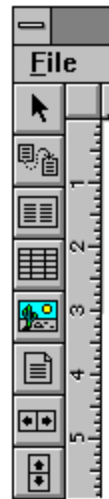
- u Motivates**
- u Also distracts and degrades usability**
- u Advice:**
 - Let the user pick the color**
 - Use color schemes as well**
 - Provide conservative defaults**



Color Attracts the Eye

Too much color makes the eye bounce all around for a circus effect

- u Use a small number of colors**
- u Use color to direct attention**
- u Use color to communicate**
- u Use less bright colors**



— Bad

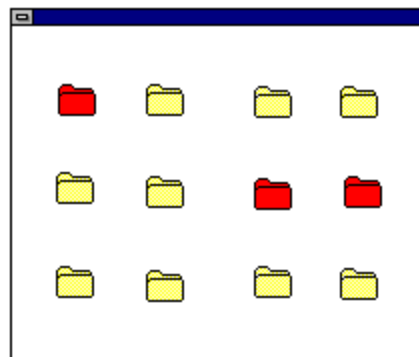
Good —



Color Communicates

Relatedness

- u All the blue things will seem related, all the red things, etc.**
- u Use color for relating and layering information**

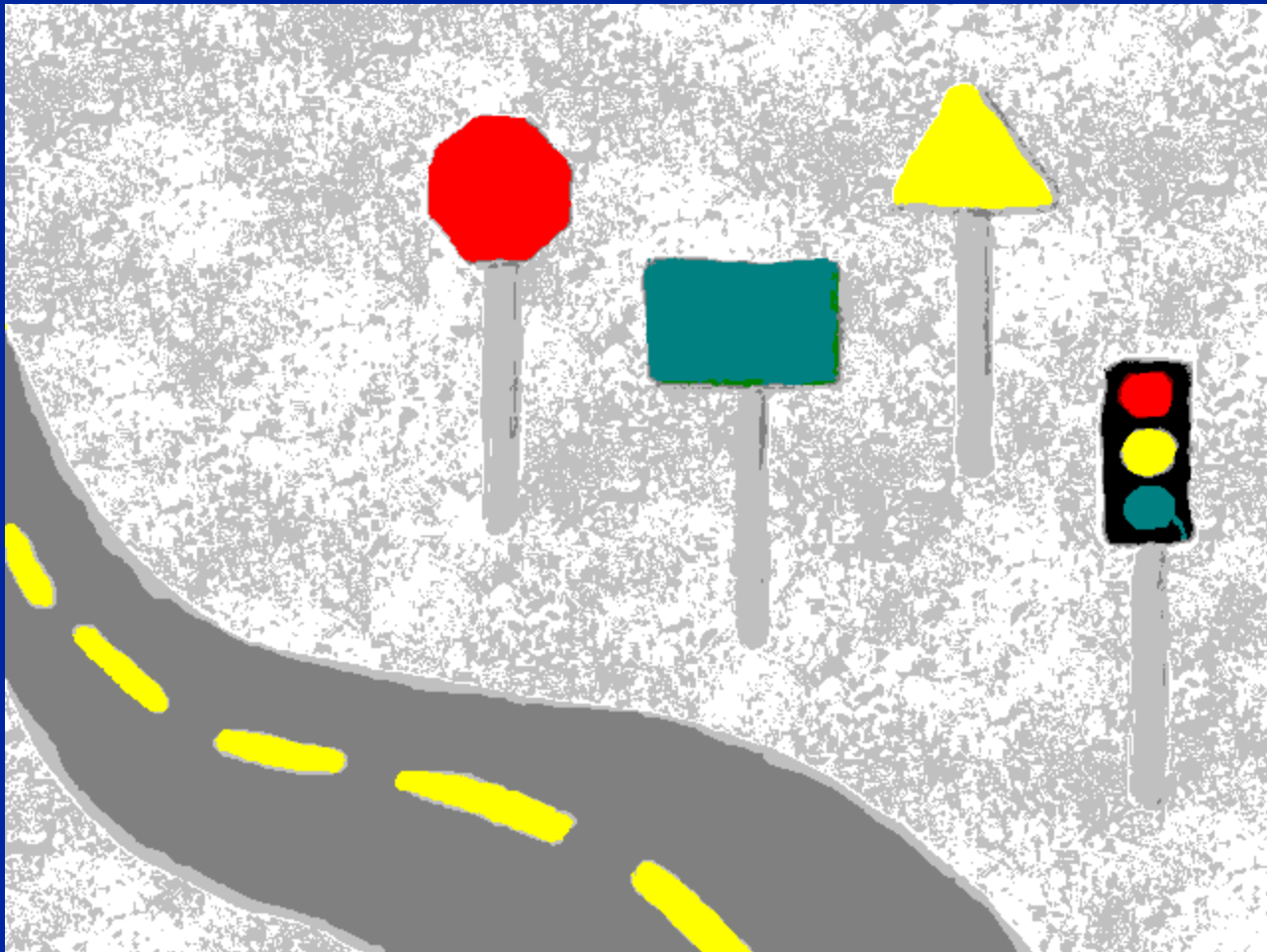


Color Coding Is Slow

We are slow to associate a color with a meaning

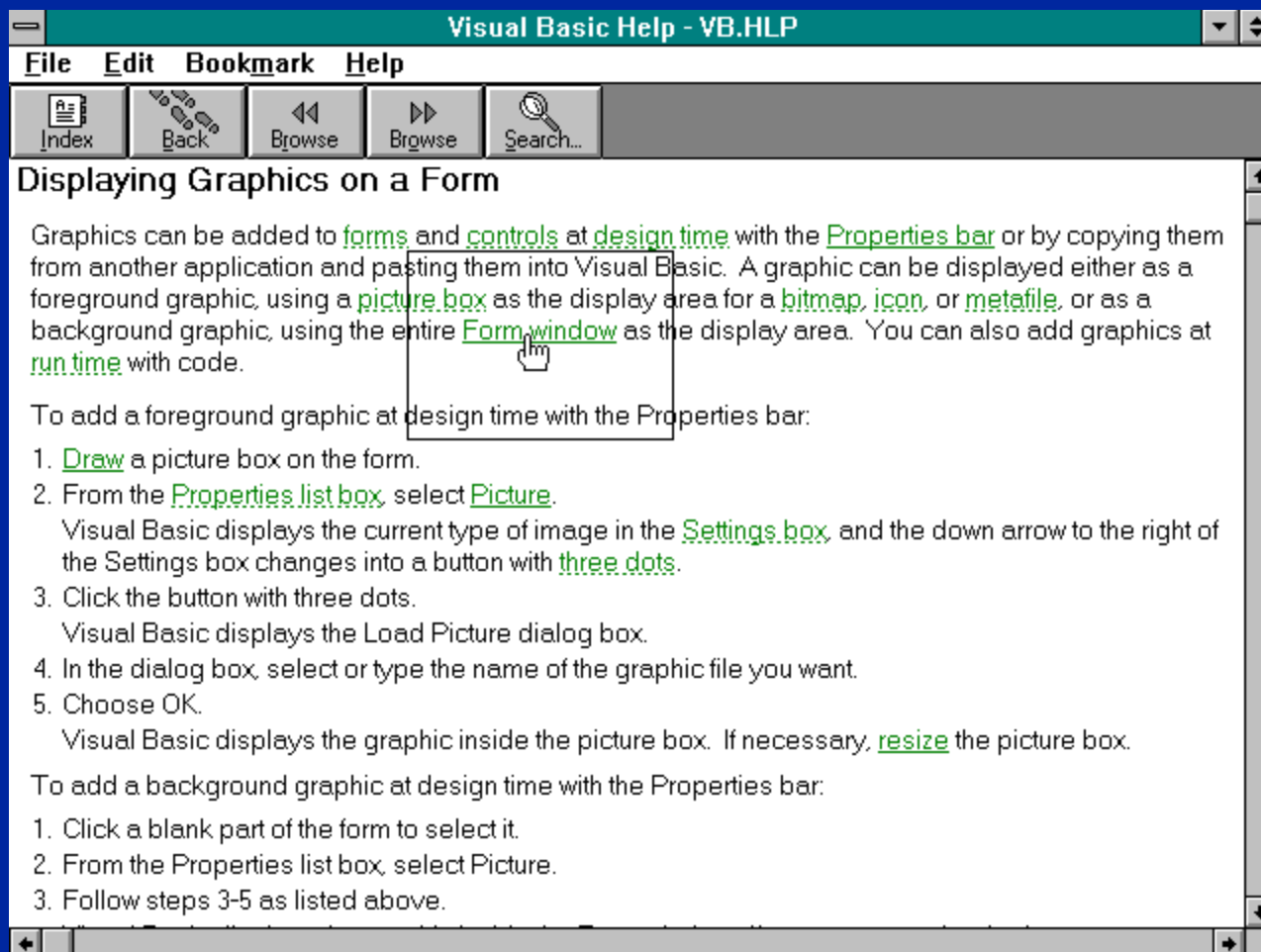
- u Use minimal color coding**

- u Where possible associate it with the real world:
Red = stop, Green = go**



Color Blindness and Color Confusion

- u Almost 10% of the male population has some form of color confusion**
- u Use color as a redundant cue**
- u Never rely solely on color to communicate information**

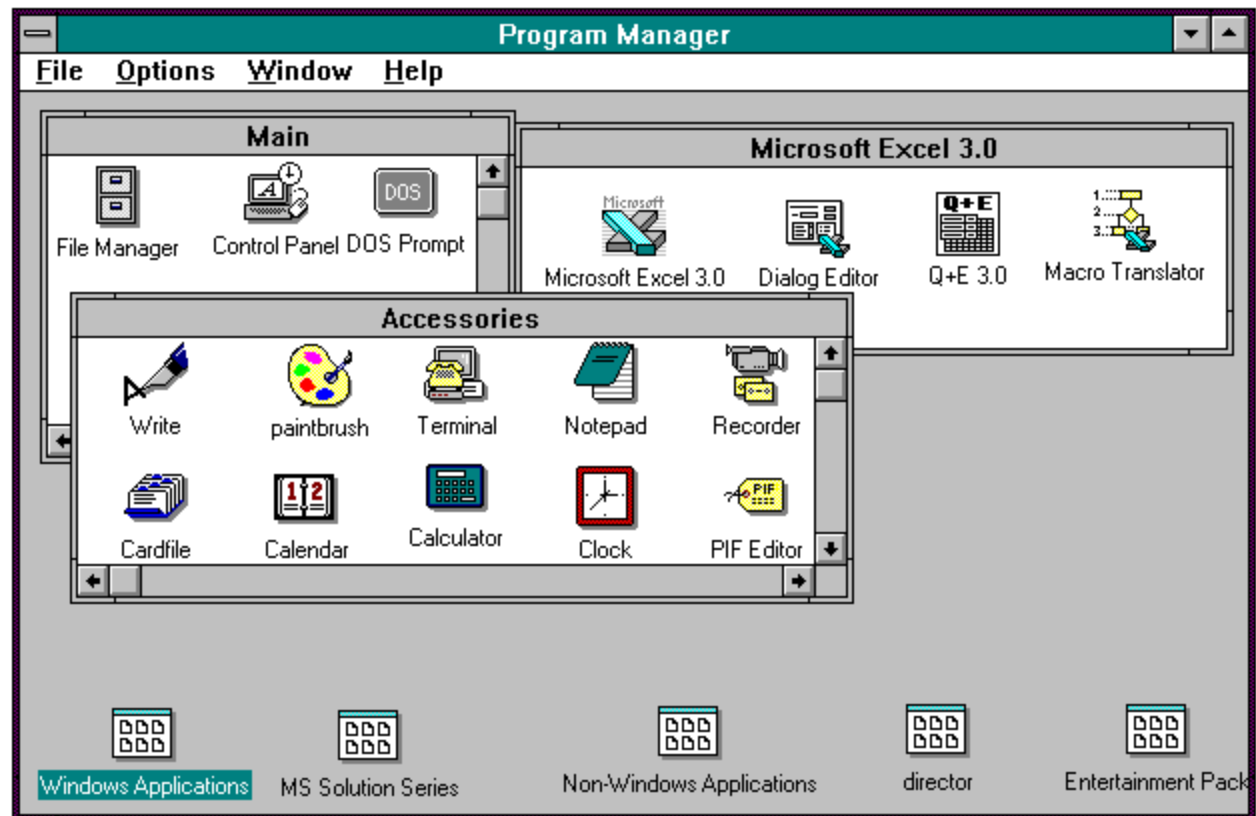


Icons

- u What are they?**
- u What kind of icons communicate?**
- u The dilemma between:**
 - Icons that are recognizable**
 - Icons that are easily remembered**

Icons - What Are They?

- u They are not the same as interface graphics**
- u Icons represent a program or file - an object in the system**
- u They have both a graphic and a title (for a reason!)**



What Kind of Icons Communicate?

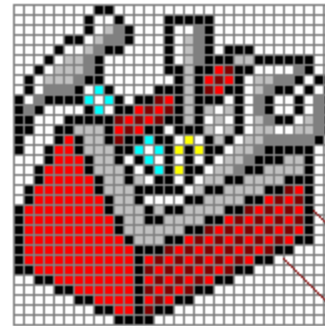
- u Not abstract symbols!**
- u People like realistic,
illustrative icons**
- u People like simple
icons**

Icon Design



Toolbox Application

Color appropriate
to subject



3-Dimensional objects

Oblique angles

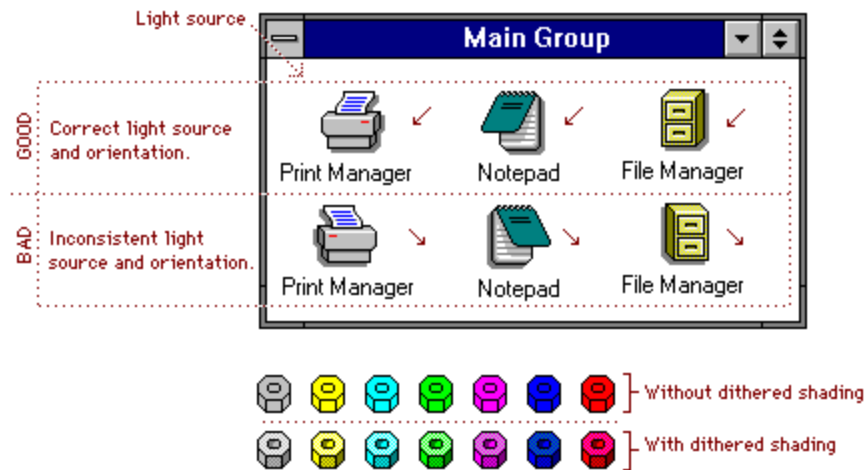
Icons - The Dilemmas

- u Recognition vs. remembering**
- u Simple real world object**
- u For an abstract concept, a simple object is better than a symbol**
- u Icon design is an art that takes practice and talent!**

Designing Icons

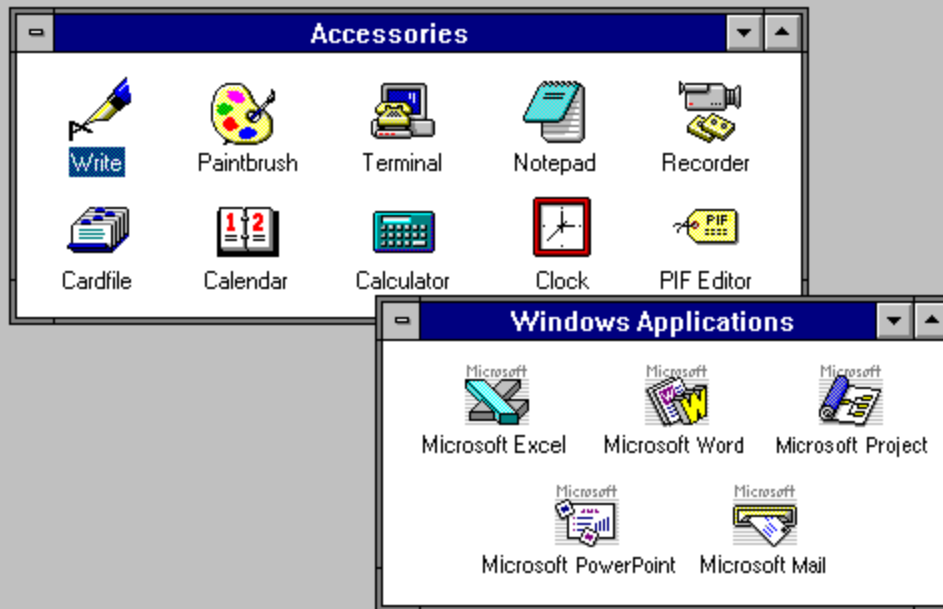
- u Use perspective**
- u Just the minimum of detail is better**
- u Use color to enhance recognition, not as decoration**
- u Start with black and white**
- u Realistic, illustrative**

Icon Design



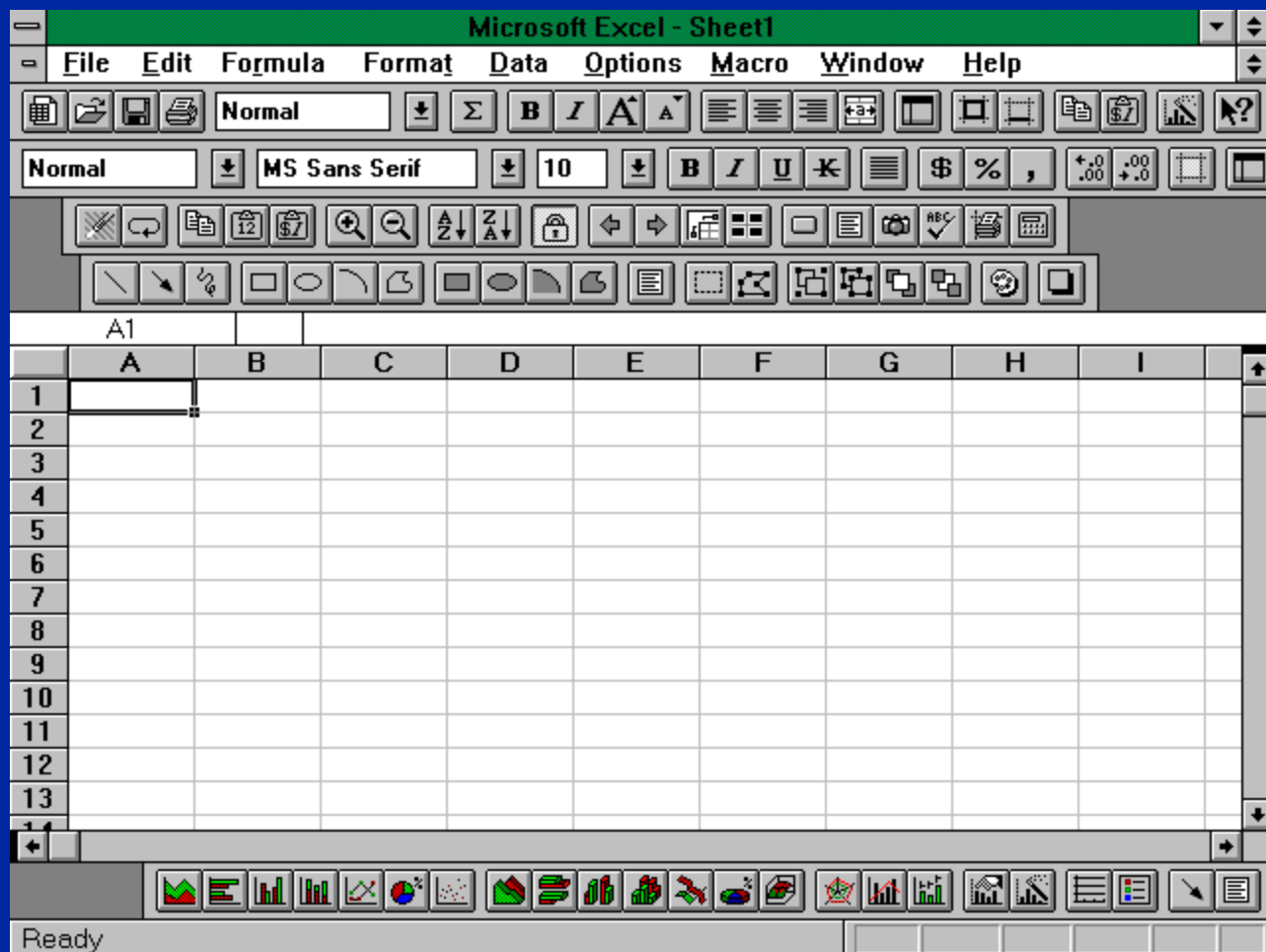
Remember: Appropriate Detail
Realistic, Illustrative, Simple
Black Outline in VGA

Icon Design



Interface Graphics

- u Buttons, toolboxes, navigation symbols**
- u Use no color or very minimal color**
- u Will be learned, can be more abstract**
- u Recall is more important than recognition**
- u Usability test!**



Toolbar button states

- u Up**
- u Mouse down**
- u Selected option**
- u Inactive**



Up State

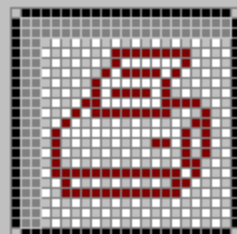
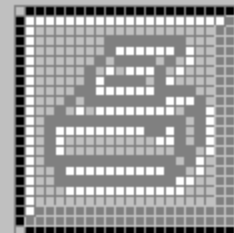
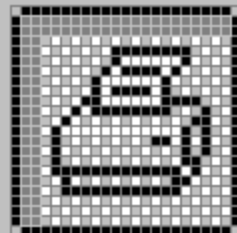
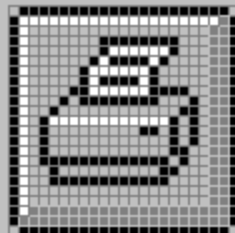


Down (Pressed-in) State



Inactive State

(scale 5:1)



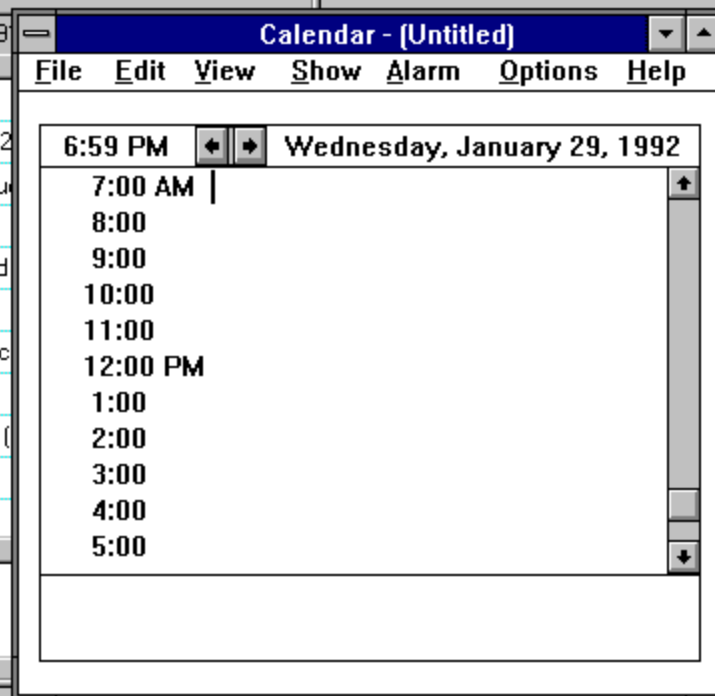
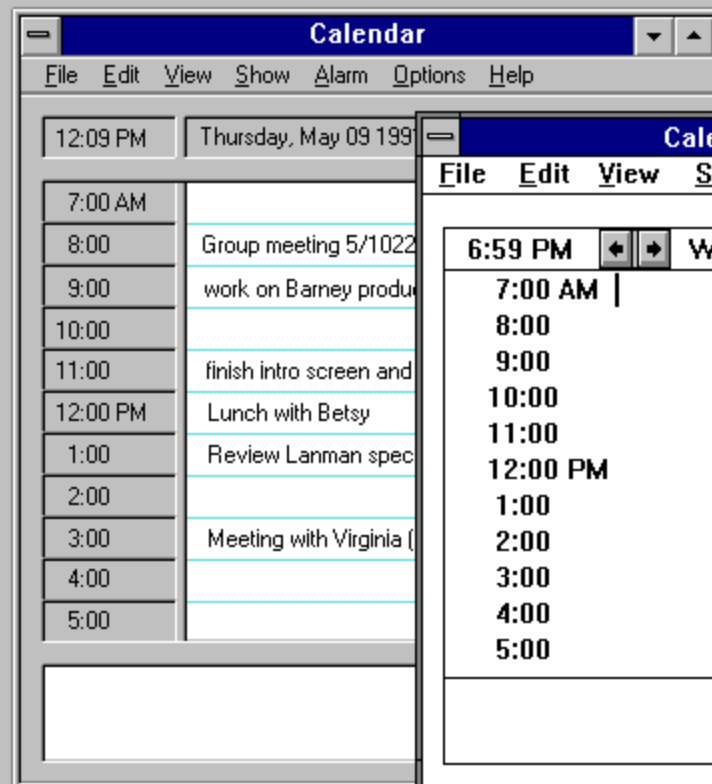
Up State

Down State

Inactive State


Visual Organization


- u Visual processing arc (where the eye moves)**
- u Use hierarchies and layering**
- u Use three dimensions instead of lines**
- u Don't overuse 3-D!**
- u Use visual samples and tasteful graphics**





MouseControl

Size

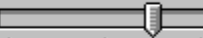
 Small

 **Medium**


 Large

 ☒ **Pointer Growth**


Trigger Speed


Slow  Fast


Duration

Short  Long


Color

 Normal


 Reverse

 Transparent


Mouse Trails


 ☒ **Enabled**


Length


Short  Long

Extra Points

 ☒ **Magnify**

 ☒ **Screen Wrap**

 ☐ **Snap-to**

 ☐ **Locate**

OK


Cancel

Reset

Orientation...

Sensitivity...

Help

 **Meet the Mouse**

Summary

- u Add a designer to your team early
- u Use color carefully
- u Usability and good design sell better than cool and flashy
- u Your taste and the user's taste are different!